

CHAPTER 23

TEST

Vocabulary

23.3 Carbonyl Compounds

- A carbonyl group, with the general structure $C=O$, is the functional group in aldehydes and ketones.
- The general formula for a carboxylic acid is $RCOOH$.
- Esters contain a carbonyl group and an ether link to the carbonyl carbon. The general formula for an ester is $RCOOR$.

- addition reaction (p. 733)
- alcohol (p. 730)
- aldehyde (p. 737)
- alkyl halide (p. 727)
- aryl halide (p. 727)
- carbonyl group (p. 737)
- carboxyl group (p. 740)
- carboxylic acid (p. 740)

- ester (p. 741)

- ether (p. 735)

- fatty acid (p. 740)

- halogen

- functional group (p. 725)

- halocarbon (p. 726)

- hydrogenation reaction (p. 734)

- hydroxyl group (p. 730)

- ketone (p. 737)

- monomer (p. 747)

- polymer (p. 747)

- substitution reaction (p. 728)

23.4 Polymerization

- An addition polymer forms when unsaturated monomers react to form a polymer.
- Condensation polymers are formed by the head-to-tail joining of monomer units.

23.1 Introduction to Functional Groups

- Organic compounds can be classified according to their functional groups.
- A halocarbon is a carbon-containing compound with a halogen substituent.
- A halogen can replace a hydrogen atom on an alkane to produce a halocarbon.

23.2 Alcohols and Ethers

- Aliphatic alcohols can be arranged into structural categories according to the number of R groups attached to the carbon with the hydroxyl group.
- When using the IUPAC system to name continuous-chain and substituted alcohols, drop the *-e* ending of the parent alkane name and add the ending *-ol*.
- Alcohols of up to four carbons are soluble in water in all proportions. The solubility of alcohols with four or more carbons in the chain is usually much lower.
- Addition reactions of alkenes are an important method of introducing new functional groups into organic molecules.
- The general structure of an ether is $R-O-R$. The alkyl groups attached to the ether linkage are named in alphabetical order and are followed by the word *ether*.

Please note: the reactions that you are responsible for are cracking, reforming, complete combustion, addition, substitution, elimination and esterification. You have been given notes on these. Some of the Ch 23 information wrt reactions will not be on the test, so concentrate on studying the reactions that I have emphasized above.



Format: Multiple choice, short answer, draw the structure or give the name, labelling and naming functional groups. do not forget that you should have read the chapter twice.